

Abstract Submitted
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Development of Operational Scenarios and Edge Diagnostics for the NSTX Liquid Lithium Divertor¹ J. KALLMAN, R. KAITA, H. KUGEL, E. KOLEMEN, PPPL, M.A. JAWORSKI, UIUC, J.W. AHN, D. GATES, S. GERHARDT, PPPL, R. MAINGI, ORNL, J. ROBINSON, A.L. ROQUEMORE, PPPL, V. SOUKHANOVSII, LLNL — During the 2010 run campaign, NSTX will continue to investigate the effects of lithium-coated plasma facing components utilizing a Liquid Lithium Divertor (LLD), to be installed at the end of 2009 run operations. In order to balance the pumping capabilities of the LLD (located on the outboard divertor) with the performance benefits of high triangularity discharges (typically with the strike points on the inner divertor), a new intermediate triangularity discharge was developed. Operational LLD-ready scenarios utilizing this shape and new strike point control algorithms were successfully developed. Neutral beam power and current scans were conducted to characterize density and temperature profiles as well as radiated power due to impurities. In addition, new diagnostics will be necessary to better assess the effect of the LLD on edge plasma parameters, key among these is a high density Langmuir probe array for measurements of plasma density and temperature in the vicinity of the LLD.

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